

Title (en)  
ENERGY RADIATION GENERATOR WITH UNI-POLAR VOLTAGE LADDER

Title (de)  
ENERGIESTRAHLUNGSGENERATOR MIT UNIPOLARER SPANNUNGSLEITER

Title (fr)  
GÉNÉRATEUR D'ÉNERGIE DE RAYONNEMENT À ÉCHELLE DE TENSION UNIPOLAIRE

Publication  
**EP 2742370 B1 20230628 (EN)**

Application  
**EP 12831040 A 20120914**

Priority  
• US 201161534446 P 20110914  
• US 2012055497 W 20120914

Abstract (en)  
[origin: WO2013040390A2] A well-logging tool may include a sonde housing, and a radiation generator carried by the sonde housing. The radiation generator may include a generator housing, a target carried by the generator housing, a charged particle source carried by the generator housing to direct charged particles at the target, and at least one voltage source coupled to the charged particle source. The at least one voltage source may include a voltage ladder comprising a plurality of voltage multiplication stages coupled in a bi-polar configuration, and at least one loading coil coupled at at least one intermediate position along the voltage ladder. The well-logging tool may further include at least one radiation detector carried by the sonde housing.

IPC 8 full level  
**H01J 3/02** (2006.01); **E21B 47/11** (2012.01); **E21B 49/00** (2006.01); **H02M 7/10** (2006.01); **H05G 1/10** (2006.01); **H05H 3/06** (2006.01); **H05H 5/04** (2006.01)

CPC (source: EP RU US)  
**E21B 47/017** (2020.05 - EP RU US); **E21B 47/085** (2020.05 - US); **E21B 47/11** (2020.05 - EP RU US); **G01N 23/20008** (2013.01 - US); **G01V 3/12** (2013.01 - US); **G01V 3/30** (2013.01 - US); **G01V 5/04** (2013.01 - US); **G01V 5/12** (2013.01 - RU US); **G01V 5/20** (2024.01 - US); **H01J 35/025** (2013.01 - US); **H01J 37/061** (2013.01 - US); **H02M 7/103** (2013.01 - EP US); **H05G 1/10** (2013.01 - EP US); **H05H 3/06** (2013.01 - EP US); **H05H 5/045** (2013.01 - EP US); **E21B 49/00** (2013.01 - EP US); **G01N 9/24** (2013.01 - US); **G01N 2035/00306** (2013.01 - US); **G01N 2201/0227** (2013.01 - US); **G01N 2223/05** (2013.01 - US); **G01N 2223/204** (2013.01 - EP US); **G01N 2223/30** (2013.01 - US); **H01J 3/023** (2013.01 - EP US); **H01J 43/04** (2013.01 - US); **Y10T 29/49117** (2015.01 - EP)

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2013040390 A2 20130321**; **WO 2013040390 A3 20130510**; BR 112014006056 A2 20170613; BR 112014006056 A8 20231003; BR 112014006061 A2 20170613; BR 112014006061 A8 20221004; CA 2848387 A1 20130321; CA 2848394 A1 20130321; CN 103930649 A 20140716; CN 103930649 B 20180202; CN 104093932 A 20141008; EP 2742370 A2 20140618; EP 2742370 A4 20150527; EP 2742370 B1 20230628; EP 2742371 A2 20140618; EP 2742371 A4 20150603; EP 2742371 B1 20220803; MX 2014003007 A 20140528; MX 2014003008 A 20140528; MX 346077 B 20170307; MX 346761 B 20170331; RU 2014114049 A 20151020; RU 2014114526 A 20151020; RU 2601264 C2 20161027; RU 2602410 C2 20161120; US 10102998 B2 20181016; US 2015055747 A1 20150226; US 2015055748 A1 20150226; US 2018061610 A1 20180301; US 9805902 B2 20171031; US 9805903 B2 20171031; WO 2013040402 A2 20130321; WO 2013040402 A3 20130510

DOCDB simple family (application)  
**US 2012055478 W 20120914**; BR 112014006056 A 20120914; BR 112014006061 A 20120914; CA 2848387 A 20120914; CA 2848394 A 20120914; CN 201280055631 A 20120914; CN 201280055695 A 20120914; EP 12831040 A 20120914; EP 12831724 A 20120914; MX 2014003007 A 20120914; MX 2014003008 A 20120914; RU 2014114049 A 20120914; RU 2014114526 A 20120914; US 2012055497 W 20120914; US 201214344513 A 20120914; US 201214344568 A 20120914; US 201715791818 A 20171024